

PROCEEDINGS  
OF THE  
BIOLOGICAL SOCIETY OF WASHINGTONNEW SUBSPECIES OF THE CANYON MOUSE (*PEROMYS-  
CUS CRINITUS*) FROM SONORA, MEXICO.

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Field work in northwestern Sonora in the past four years has brought to light the existence of a great amount of geographic variation in the canyon mice (*Peromyscus crinitus*) inhabiting that area. The extremes in paleness and darkness in this species occur between populations living only a few miles apart. A high degree of isolation, and great differences in the color of the rocky hills which this species inhabits, seem to be correlated with this geographic variation.

***Peromyscus crinitus delgadilli*, new subspecies.**

*Type*.—Adult male, skin and skull, no. 83042 Mus. Vert. Zool.; from 2 miles south of Crater Elegante, Sierra del Pinacate, 34 miles west of Sonoita, Sonora, Mexico; collected March 28, 1938, by Margarito Delgadillo; original number 4963 Seth B. Benson.

*Distribution*.—Limited to the Pinacate lava field in northwestern Sonora.

*Diagnosis and comparisons*.—A race characterized by dark color, long, unicolored dark tail, and dark hind feet. All of the other known subspecies have white feet and bicolored, or white, tails.

*Color* (capitalized color terms after Ridgway, Color Standards and Color Nomenclature, 1912).—Hair on dorsum with base Dark Plumbeous, narrow subterminal band Cartridge Buff, tip black. Lateral stripe and pectoral spot Light Buff. A faint buffy wash on some belly hairs which otherwise have white tips and Dark Plumbeous bases. Hairs of tail black. Hind feet black to base of toes. Skin of ears and hind feet dark-pigmented. The dark pigment is dominant in the general tone of color.

*Measurements*.—Average and extreme measurements in millimeters of 6 adult and subadult males: Total length, 182 (173-188); tail, 104 (94-115); hind foot, 20 (19-21); ear from notch, 20 (19-21); ear from crown, 17 (16-17); weight in grams, 12.1 (10.6-14.2); length of head and body, 79 (71-87). *Skull*: Greatest length, 23.7 (23.3-24.3); basilar length, 17.5 (17.0-18.0); zygomatic breadth, 11.3 (11.0-11.7); interorbital constriction, 4.0 (3.8-4.1); nasals, 9.1 (8.9-9.2); shelf of bony palate, 3.3 (3.2-3.4); palatine

slits, 5.1 (5.0-5.3); diastema, 5.9 (5.5-6.1); postpalatal length, 8.4 (8.2-8.7); maxillary tooththrow, 3.4 (3.3-3.5).

*Specimens examined.*—Total number, 8, all from the Sierra del Pinacate, Sonora, Mexico, as follows: Crater Elegante, 4; 2 miles south of Crater Elegante, 3; Batamote, Rio Sonoita, 30 miles WSW Sonoita, 1.

*Remarks.*—Seven of the eight specimens resemble each other closely, but one specimen from Crater Elegante is like the members of the population living on the Sierra Hornaday. This specimen may indicate either that isolation is not complete or that the population is not yet homozygous for dark color.

***Peromyscus crinitus rupicolus*, new subspecies.**

*Type.*—Adult female, skin and skull, no. 83034 Mus. Vert. Zool.; from Paso MacDougal, east end of Sierra Hornaday, Sonora, Mexico; collected March 25, 1938, by Seth B. Benson; original number 4944.

*Distribution.*—Probably restricted to the Sierra Hornaday.

*Diagnosis and comparisons.*—A dusky, long-tailed race. Differs from *P. c. disparilis* in darker color, more sharply distinct dark stripe on tail, and dusker ears. Subterminal band on dorsal hairs narrower, Pinkish Buff rather than Light Ochraceous-Buff. Black tipping on hairs more pronounced. Much paler than *delgadilli*.

*Color.*—Hair on dorsum with base Dark Plumbeous, narrow subterminal band Pinkish Buff, tip black. Hair of ventral surface with base Dark Plumbeous and tip white. Feet white. Tail bicolor, black above, white beneath. Skin of ears heavily pigmented.

*Measurements.*—Average and extreme measurements in millimeters of 4 males: Total length, 181 (175-188); tail, 105 (96-112); hind foot, 19; ear from notch, 20 (18-21); ear from crown, 17 (15-18); weight in grams, 11.5 (10.1-11.9); length of head and body, 71 (64-79). *Skull.* Greatest length, 23.6 (23.3-24.1); basilar length, 17.3 (16.9-17.6); zygomatic breadth, 11.3 (11.0-11.5); interorbital constriction, 3.9 (3.8-4.0); nasals, 9.1 (9.0-9.2); shelf of bony palate, 3.2 (2.9-3.4); palatine slits, 5.2 (4.9-5.3); diastema, 5.7 (5.5-6.0); postpalatal length, 8.3 (8.1-8.4); maxillary tooththrow, 3.4 (3.3-3.5).

*Specimens examined.*—Total number, 7, from the type locality.

*Remarks.*—Some specimens of *P. c. disparilis* from Tule Tank, Yuma County, Arizona, are intermediate in characters between *disparilis* and *rupicolus*. There is no indication of intergradation with *delgadilli* except that one specimen of the latter differs sharply from the rest and resembles *rupicolus* in color. Possibly this specimen indicates that immigration to the lava bed across the low desert takes place from time to time.

***Peromyscus crinitus scopulorum*, new subspecies.**

*Type.*—Adult male, skin and skull, no. 83045 Mus. Vert. Zool.; from Cerro La Cholla, 6 miles west-northwest of Punta Peñasca, Sonora, Mexico; collected April 3, 1938, by Seth B. Benson; original number 5024.

*Distribution.*—Restricted to the Cerro La Cholla, northwestern Sonora.

*Diagnosis and comparisons.*—A large, bright-colored, long-tailed race. Differs from *P. c. disparilis* in dusker color, more sharply bicolored tail,

greater size. Color difference on dorsum caused by wider basal band, narrower subterminal band, wider black tip. Skull, nasals, and palatine slits longer. Braincase more rounded, higher, especially in region of interparietal. Differs from *delgadilli* and *rupicolus* in paler, brighter color, larger size, and in the skull characters listed above.

*Color.*—Hair on dorsum with base Dark Plumbeous, narrow subterminal band Light Ochraceous-Buff, tip black. Lateral stripe Light Ochraceous-Buff. Hair on belly with base Dark Plumbeous, tip white. Tail bicolor, dark above, white beneath. Feet white.

*Measurements.*—Average and extreme measurements of 5 adult and subadult males: Total length, 189 (179–197); tail, 109 (104–115); hind foot, 19 (19–20); ear from notch, 20 (19–21); ear from crown, 17 (15–17); weight in grams, 15.3 (13.8–17.0); length of head and body, 80 (75–82). *Skull:* Greatest length, 24.2 (23.9–24.5); basilar length, 17.5 (17.2–17.8); zygomatic breadth, 11.5 (11.3–11.7); interorbital constriction, 4.0 (3.9–4.1); nasals, 9.4 (9.0–9.9); shelf of bony palate, 3.4 (3.2–3.5); palatine slits, 5.3 (5.1–5.5); diastema, 5.8 (5.7–5.9); postpalatal length, 8.3 (8.1–8.5); maxillary toothrow, 3.3 (3.2–3.4).

*Specimens examined.*—Total number, 6, all from the type locality.

*Remarks.*—There is confusion regarding the names of the landmarks near the type locality. According to present usage, the name Punta Peñasca is restricted to the fishing village situated at the base of a lava hill which projects into the sea. Five miles west-northwest there is a granitic headland also projecting into the sea and now known locally as Cerro La Cholla. According to various maps this headland has been named Punta Peñasca, Punta Peñascosa, Punta Piedras, and Sea Lion Bluff. For instance, on the map (Baja California, Norte; 1 : 1,000,000; Provisional Edition; American Geographical Society of New York, 1924) Cerro La Cholla is labeled Punta Peñasca. Probably the name Punta Peñasca was first applied to this headland, and not to the much smaller lava hill, but I follow present usage in restricting the name Punta Peñasca to the fishing village.

The three subspecies named above are to me indistinguishable from *P. c. disparilis* in proportions and in most skull characters. All may be distinguished from *P. c. stephensi* by their greater size and longer tails. The differences between *disparilis*, *scopulorum*, *rupicolus*, and *delgadilli* are chiefly in color. Each one of these subspecies has an extremely restricted range. The area occupied by *scopulorum*, for instance, is approximately one square mile. Notwithstanding the small areas of range these populations are clearly distinct from one another. The pale yellow *disparilis* and the nearly black *delgadilli* are the extremes in color for this species and yet their ranges are separated only by a few miles.

The following circumstances help to explain the existence of these different colors. In this area this species inhabits only the steepest and rockiest places; these, for the most part, are separated from one another by low-lying, sandy desert where this species ordinarily does not occur; some of the hills are nearly white or light gray, and others are black. There is a definite correlation between the color of the animal and the color of the background in which it lives.